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| 09/770,491 | 01/29/2001 | Janne Kallio | 800.0169.U1(US) | 7373 |

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| EXAMINER | |
|---|---|
| D AGOSTA, STEPHEN M | |
| ART UNIT | PAPER NUMBER |
| 2617 | |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/770,491 | KALLIO, JANNE | |
| | Examiner | Art Unit | |
| | Stephen M. D'Agosta | 2617 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *26 April 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *See Continuation Sheet* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *See Continuation Sheet* is/are rejected.

7)☒ Claim(s) *61 and 103* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims pending in the application are 31,32,35,36,38,40,41,49,50,52,55,56,58-65,67,68,70,71,73,74,76,77,82-84,98-103,105 and 128.

Continuation of Disposition of Claims: Claims rejected are 31,32,35,36,38,40,41,49,50,52,55,56,58-60,62-65,67,68,70,71,73,74,76,77,82-84,98-102,105 and 128.

## DETAILED ACTION

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

1. The applicant has amended the claims to recite that the Location Area ID/Code is being transmitted. The prior art clearly teach this concept as shown in the modified rejection below. Furthermore, note that the mobile device will receive data from the network (eg. in the BTS Pilot broadcast) such that it can determine various parameters about said BTS to distinguish it from other proximate BTS's to allow it to include it in its neighbor list or not.

2. Note that at least the following pertinent (but not cited) prior art listed in the PTO-892 also teaches use/transmission of the LAI/LAC between network and mobile:

i. US 5,953,667 see C3, L20-31

ii. US 5,956,629 see Claims 1, 15, 19

iii. US 6.275,706 see Figures, C11, L55 to C12, L42

iv. US 6,363,255 see C1, L40-50

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**Claims 31-32, 35-36, 38, 40-41, 49-50, 52, 55-56, 58-60, 62-65, 67-68, 70-71, 73-74, 76-77, 82-84, 98-102, 105 and 128** rejected under 35 U.S.C. 103(a) as being unpatentable over Ray et al. US 6,424,638 and further in view of {Keski-Heikkilaet et al. US 6,882,844 or Vikberg et al. US 6,925,074} and Ritter US 6,289,221.

As per **claims 31, 36, 49, 55, 59, 62, 64-65, 67-68, 70-71, 77, 82, 84 98, 101,** Ray teaches an apparatus/processor with memory and program code and transmitter for a first telecommunication network (Abstract teaches a mobile handing over between two different networks via two different base stations/appratuses/processors/access points), the apparatus comprising:

a data store/processor to store a and identify an access point (eg. cell identity information) for a cell/access point of the first telecommunication network (Figure 1, shows an HLR #26 and VLR #16),

wherein the apparatus/processor is configured to allow the cell/access point of the first telecommunication network to be identified as being a neighbor (eg. a neighboring cell) of the second telecommunication network (Abstract teaches serving and target MSC's which inherently infers a target BTS/cell which will support the mobile after handoff. The examiner notes that neighbor lists are well known in cellular networks and inherently include a list of BTS's the mobile can handoff to, depending upon their location and signal strength), and the first network using a different radio technology than the second network (eg. a dual mode phone communicating with two different BTS's supporting different protocols, AMPS vs. GSM or GSM vs. CDMA, etc);

**but is silent on** and a cell identity information structure of a second telecommunication network and wherein the transmitted identity information comprises a location area code associated with the second telecommunication network.

The examiner notes that Ray alludes to use of Location Areas (C2, L60-65) and Ray teaches the need to translate protocols and data between the two networks:

> With all of these different types of wireless communications systems available, seamless roaming from one type of system to another has posed significant problems for the industry. For example, if a mobile subscriber is involved in a wireless call, and the call needs to be handed over to another type of system in order to continue the call, conversion and interface devices are needed to perform this task. One device that exists today to perform such handovers between **D-AMPS and GSM systems** is a Roam-Free Gateway (RFG), formerly known as an Interworking Location Register (ILR). The RFG acts as a gateway that converts the protocols of the **signaling** and voice communications between the systems to enable the two systems to communicate effectively in order to perform call handovers. (C1, L39-56)

> Therefore, in accordance with aspects of the present invention, the currently serving GSM MSC 14a sends an identity message 315, including location information 318, e.g., X, Y coordinates and preferably a coverage area radius, for the GSM base station 25a, to an Internet Gatekeeper 320 via an Internet Gateway 310a for the GSM system 350 (step 415). The GSM Internet Gateway 310a converts the GSM identity message 315 into Internet Protocol (IP) packets 335 containing the identity message 315 and location information 318, and routes the IP packets 335 through an Internet 330 to the Internet Gatekeeper 320 for the area that includes the GSM MSC 14a. This identity message 315 preferably inquires whether there are any other types of wireless systems nearby that the call can be handed over to. Alternatively, the GSM MSC 14a may have knowledge about the existence of another type of system nearby, and the identity message 315 may seek confirmation of the existence of the other type of system from the Internet Gatekeeper 320. (C4, L52 to C5, L5)

**Vikberg** teaches a High Speed access point which “mimics” a cellular BTS in regard to the information it broadcasts (C5, L5-30) -- and note that Vikberg teaches two different radio technologies, eg. Bluetooth and GSM:

The element of the fixed access network portion 10' adapted to communicate across the Bluetooth interface is designated a local or home base station (HBS) 104. This element handles the radio link protocols with the mobile terminal MT 1 and contains radio transceivers ***that define a cell in a similar manner to the operation of a conventional GSM base station transceiver BTS 103.*** The home base station HBS 104 is controlled by a home base station controller HBSC 105, which communicates with a mobile service switching centre MSC 202 over the GSM standard A interface and also with a serving GPRS support node SGSN 203 over a standard Gb interface, if available in the core network portion……In other words, when viewed from the elements of the core network 20 such as the mobile service switching centre (MSC) 202 and the serving GPRS support node (SGSN) 203, ***the fixed access network portion 10' constituted by the home base stations HBS 104 and the home base station controller HBSC 105 looks like a conventional access network portion 10."***

Vikberg teaches use of the Location Area ID/Code (see figure 2):

this message will also contain a location area identifier LAI of the HBS 104 and an Id of the HBS 104 **(C6, L45-62).**

In conventional public mobile systems, such as GSM, network coverage is divided into multiple location areas LA which may comprise one or several BTS cells. Each location area is assigned a unique code called a location area identifier LAI **(C10, L1-10).**

**Keski-Heikkilaet** teaches a permanent Cell ID (see C4, L39-46) which can be viewed as a "common" Cell ID format. Hence, the applicant is uses one network's structure to represent the Cell ID while Keski-Heikkilaet uses a method whereby his "permanent" format can be used in a similar manner, eg. sending the mobile the permanent Cell ID. Furthermore, Keski-Heikkilaet teaches generically modifying the Cell ID format/structure which broadly reads on the applicant's broad claims.

**Ritter** teaches a mobile system (Abstract) whereby coverage areas are supported by multiple wireless technologies (eg. figure 1 shows each "cell" supporting both GSM and TD/CDMA technologies which connect to a ***COMMON BSC/MSC*** architecture). The examiner notes that since the cells connect back to a common

BSC/MSC architecture, that the system can inherently provide a handoff from one technology to the other which would thus occur if one system is being interfered with while the other is not. Hence These two BTS's can conceivably transmit either separate beacons and/or dual beacons whereby each technology can look like the other technology simply because they use a common BSC/MSC architecture).

It would have been obvious to one skilled in the art at the time of the invention to modify Ray, such using a cell identity information structure of a second telecommunication network and one network being either WLAN, Bluetooth or WCDMA, to provide means for using an "alternate" Cell ID to make the mobile think that a listing in the neighbor list is from the same network they are operating on currently and that they can connect to it in a handoff operation.

***With further regard to claims 36, 59 and 77 84, and 101,*** the combination of Ray, Keski-Heikkilaet and Ritter together teaches wherein the cell identity of the second network comprises at least one of frequency, BTS ID ~~or location area~~ (eg. Ritter teaches transmitting frequency information, eg. carrier, see figures 4, 5 and 6).

***With further regard to claims 49,*** the combination of Ray, Keski-Heikkilaet and Ritter together teach a method to support a seamless mobility/handoff between the two networks.

***With further regard to claims 64-65, 67-68, 70-71 and 73-74,*** the combination of Ray, Keski-Heikkilaet and Ritter together teach a method to networks comprised of WLAN, Bluetooth and/or WCMDA and a handoff can occur between any of the combo's..

As per **claim 32,** Ray teaches claim 31/42, wherein the apparatus is a network element (Figure 1, shows an HLR #26 and VLR #16 which are network components/elements).

As per **claim 128,** Ray teaches wherein the data store is a database (Figure 1, shows an HLR #26 and VLR #16 which are databases),

As per **claims 35 and 58 and 83, 100,** Ray teaches claim 35/42/55, wherein the second telecommunication network is GSM network (Abstract teaches GSM network(s)).

As per **claim 38,** Ray teaches claim 31, wherein the apparatus is further caused to use ~~comprises~~ a handover algorithm which provides seamless mobility between the first telecommunication network and second telecommunication network (Abstract teaches handover).

As per **claim 40,** Ray teaches claim 38, wherein the mobile is in either IDLE or ACTIVE state (Ray teaches handoffs whereby the mobile can receive control/network data while either in ACTIVE or IDLE mode, eg. both active and idle-mode handoffs are well known).

As per **claim 41,** Ray teaches claim 32 wherein the apparatus is an access point (the storage unit can be located at the HLR and/or at each BTS proximate a second RF network).

As per **claim 56 and 99~~,~~** Ray teaches claim 42/55, further comprising means of measuring of signal level of radio transmitters in the first telecommunication network and the second telecommunication network (C3, L45-46 teaches "collecting measurements" which are signal level measurements).

As per **claim 50,** Ray teaches claim 49 further comprising storing the cell information in a neighbor list of neighboring cells of the second telecommunication network (neighbor lists are inherent to cellular networks and Official Notice is taken).

As per **claims 52, 63 and 105,** Ray teaches claim 49 wherein the transmitting is done in a cell of the second network (eg. the proximate network transmits a beacon which is received by a first network and it can be included in the neighbor list) AND Cell-ID information of the cell of the first network includes neighbor information given by the cell of the second network (see rejection(s) for independent claim(s), eg. claim 49 or 55). further comprising storing the cell.

As per **claims 60 and 102,** Ray teaches claim 55, wherein the mobile station has means for transmitting the signal level to at least one of the first telecommunication network and the second telecommunication network (C3, L45-46 teaches both the MS or BTS taking measurements. MAHO handoffs are well known and the mobile takes measurements and send them to the network)

### *Allowable Subject Matter*

**Claims 61, 103** objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

## *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis West can be reached on 571-272-7859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen M. D'Agosta/
Primary Examiner, Art Unit 2617